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(54) Title: METHOD FOR THE EVALUATION OF VELVET ANTLER

(57) **Abstract:** The invention provides a method and apparatus using infrared thermography for predicting an unknown value of an internal composition characteristic of velvet antler *in vivo*, *in vitro*, and/or during cooling or warming. The method involves generating a predictive model using a sample population of antlers to determine a relationship between a known input variable and a known value for the composition characteristic; and using the predictive model to predict the unknown value of the same composition characteristic in an antler not selected from the sample population. Using this value, a map can be made to identify sites and levels of the composition characteristic within the antler. The invention provides a method for predicting an internal composition characteristic of a velvet antler by obtaining an infrared thermographic image of the antler and visually ranking the image by comparison to a corresponding image of an antler with the desired composition characteristic. A method to predict maturity by comparing temperature differences between the antler's tip and base is provided.